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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,733	08/07/2001	Masatsugu Hirayama	016907/1249	1273

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EXAMINER

DIVINE, LUCAS

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/922,733	<b>Applicant(s)</b> HIRAYAMA, MASATSUGU	
	<b>Examiner</b> Lucas Divine	<b>Art Unit</b> 2624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3, 6, 9 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3, 6, 9 and 12-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

1. Claims 3, 6, 9, and 12 - 14 are pending.
2. Title objection is withdrawn.

***Response to Arguments***

3. Applicant's arguments filed 11/14/05 have been fully considered but they are not persuasive.

With respect to applicant's arguments on page 7 that the coefficients of Uchida and Huang are different.

In reply, the principals set forth in Huang of storing symmetrical matrices as a quarter of the whole matrix are applicable to any matrix that will be stored in a memory. Examiner thus means that the fact that only a quarter of the matrix needs to be stored only is because the matrix is symmetrical, not because it is a moment coefficient matrix. Similarly, just because the matrix of Uchida is an image filtering matrix does not have any affect whether or not it could, or could not be, stored in only a quarter of the space.

With respect to applicant's arguments on pages 7 and 8 that Uchida does not teach symmetrical filters and thus one would not be motivated to combine.

In reply, Uchida does not specifically teach what values are inside of the image filters. Thus, these filters can contain any combination of numbers that would be able to perform the

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filtering processes taught in Uchida. Therefore, in certain circumstances, the filters can be symmetrical, and in the rest of circumstances, the filters are not. In those circumstances where the filter is symmetrical, it would have been obvious to one of ordinary skill in the art to only store one quarter of the matrix to conserve memory space as discussed below. Therefore, in those circumstances, one of ordinary skill in the art would have been motivated to combine the feature of Huang into the system of Uchida and Yamamoto.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 6, 9, and 12 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al. (US 6744921) in view of Yamamoto et al. (US 5799139) and Huang et al. (US 6766056).

Regarding claims 3, 6, and 9, Uchida teaches **an image forming apparatus** (Fig. 1 shows the complete system, with further drawings explaining details) **comprising:**

**image readout means (scanner 201) for reading three primary colors of colors for each pixel of a manuscript image** (col. 3 lines 34-50);

**a color converting section (107 as shown in Fig. 6) that converts the three primary colors of colors read out by the image readout means into plural types of color data related to complementary colors** (col. 6 lines 45-49);

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**a region identifying section that identifies a region of each pixel based on the three primary colors of the colors supplied for each pixel of the manuscript image (Fig. 6 ref. no. 114, wherein the zone/fch outputs leave the section which identify whether a pixel is part of a image or character region);**

**a storage section that stores a filter coefficient that consists of a basic coefficient and a differential coefficient (LUT table 117 as shown in Figs. 26A and B show selecting filter coefficients that are stored in the filter unit 111 based on the filter output signal - 2 for smoothing [basic for images] and 2 for sharpening [differential for edges of characters], one coefficient for each filter in the special filter 111; col. 13 lines 24-34) for each value of sharpness setting (different coefficients selected for each sharpness setting; col. 12 lines 36-37);**

**a generating section (must be included in space filter processing unit 111 in order to complete the filtering because for each pixel input, a filter output is sent from LUT 117, and plural [2] 5x5 matrix filters are generated based on the coefficients that are indicated by the filter signal; col. 13 lines 24-34) that reads out from the storage section a filter coefficient (col. 13 line 28, wherein the filter coefficients are provided) and generates plural types (smoothing/sharpening types) of matrix shaped filters that corresponds to a region identified by the region identifying section according to the read out filter coefficient (2 filters are generated for each pixel based on coefficients, and the coefficients are determined by the region identifying section 114 as shown in Fig. 26A, wherein the zone input affects the output of the LUT which sends a coefficient selection signal [filter, discussed in col. 12 lines 36-38]);**

**a selecting section that selects one of plural types of matrix shaped filters generated by the generating section according to the identification result from the region identifying**

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section (Figs. 26A and B show the selecting tables for selecting different coefficients based on the result of a character/dot image etc.; col. 12 lines 55-59, by selecting outputs that instruct the filter how to operate, the tables select one of a plural number of filter possibilities and since filtering is completed by matrices, the selecting tables thereby select a filter matrix based on the matrix possibilities);

**a filter section** (Fig. 6 special filter 111; col. 7 lines 1-4) **that subjects color data acquired from the color converting section** (CYMK data arrives via pipeline) **to a filtering process by using the matrix shaped filter** (the 5x5 matrix filters are used; col. 13 lines 24-34); and

**image forming means for forming an image on an image forming medium based on color data outputted from the filter section** (printer 212a, which takes in color data from the filter 111 shown in Fig. 6),

**three primary colors of the color is red (R), green (G), and blue (B), and plural types of color data are cyan (C), magenta (M), yellow (Y), and black (K)** (see Fig. 6, where RGB is inputted to converting units 108, 108, and 109 and CMYK are outputted).

While Uchida teaches selecting various types of sharpening (col. 12 lines 36-37) and teaches a copying device (Fig. 1) which is known to have an operator panel, Uchida does not specifically teach using a copier operator panel to select sharpness setting that is used in the processing of a scanned document or only saving  $\frac{1}{4}$  of the filter coefficient.

Yamamoto teaches **a setting section that sets a value of sharpness setting** (Fig.5 shows the sharpening screen on an operation panel of operation portion of copier 9 that has a setting button 33 for sharpness) used in the processing of a scanned document (Fig 7 ref no. 154 teaches

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a sharpness adjusting circuit that has differentiating and integrating filters for different types of regions; col. 10 lines 20-22).

It would have been obvious to one of ordinary skill in the art to place a sharpness setting operation available to a user of a copying device as taught in Yamamoto, and thus it would have been obvious to place the same on Uchida. The motivation for doing so would have been to allow the user to have control over the final output of an image document, thus providing the user with a better output than if the option were not available.

While the combination teaches storing matrix coefficients, the combination of Yamamoto and Uchida does not specifically teach **a filter coefficient stored in the storage section is configured in size that corresponds to approximately  $\frac{1}{4}$  of the filter size.**

Huang teaches **a filter coefficient stored in the storage section is configured in size that corresponds to approximately  $\frac{1}{4}$  of the filter size** (Fig. 17B, col. 19 lines 10-45).

It would have been obvious to one of ordinary skill in the art to store only  $\frac{1}{4}$  of matrix coefficients as in Huang in order to save memory space when the coefficients were symmetrical (see Huang col. 19 lines 35-42).

Regarding claims 12 – 14, which depend from claims 3, 6, and 9, Uchida teaches that **the filter size is  $n \times n$ , where  $n$  is an odd number** (5x5, col. 13 line 24)

### *Conclusion*

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

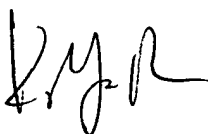
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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Divine whose telephone number is 571-272-7432. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**KING Y. POON**  
**PRIMARY EXAMINER**

Lucas Divine  
Examiner  
Art Unit 2624

LTD